

## Dr. Michael (Mike) C. Sachs

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CONTACT INFORMATION	<p>Mathematical Statistician Biometric Research Branch Division of Cancer Treatment and Diagnosis National Cancer Institute National Institutes of Health 9609 Medical Center Drive, Rm 5W114 MSC 9735 Rockville, MD 20850 USA</p>	<p>Office: +1-301-435-8045 E-mail: michael.sachs@nih.gov</p>
OBJECTIVE	Conduct research in statistical methods, collaborate with non-statisticians on substantive research projects focused on improving public health, and participate in the training of users and consumers of statistics.	
RESEARCH INTERESTS	The development and evaluation of risk prediction models/diagnostic tests/biomarkers, longitudinal data analysis, missing data patterns and mechanisms, statistical computing, causal inference in observational studies, and tools for reproducible research.	
CURRENT POSITION	<p><b>Mathematical Statistician</b> March 2014 to present Biometric Research Branch, Division of Cancer Treatment and Diagnosis, National Cancer Institute.</p> <ul style="list-style-type: none"><li>• Focus: Development and use of biomarkers for prognosis, therapy selection, and disease-monitoring.</li></ul>	
EDUCATION	<p><b>University of Washington</b>, Seattle, WA</p> <p>Ph.D., Biostatistics, August 2011</p> <ul style="list-style-type: none"><li>• Thesis Topic: <i>Statistical Methods to Assess the Prospective Predictive Accuracy of a Medical Test</i></li><li>• Advisor: Xiao-Hua Andrew Zhou</li></ul> <p><b>Lake Forest College</b>, Lake Forest, IL</p> <p>B.A., Mathematics, June 2005</p> <p>B.A., French, June 2005</p> <ul style="list-style-type: none"><li>• Magna cum laude</li><li>• Specialization in probability and statistics</li><li>• Minor in Computer Science</li></ul>	
REFEREED JOURNAL PUBLICATIONS	<p>[1] Ballegooijen, A.J., Kestenbaum, B., Sachs, M.C., et al. Association of 25-hydroxyvitamin D and Parathyroid Hormone with Incident Hypertension: The Multi-Ethnic Study of Atherosclerosis. <i>Journal of the American College of Cardiology</i>, 2014. DOI:10.1016/j.jacc.2014.01.012</p>	

- [2] Linefsky, J.P., O'Brien, K.D., Sachs, M.C., et al. Serum phosphate is associated with aortic valve calcification in the Multi-ethnic Study of Atherosclerosis (MESA). *Atherosclerosis*, 2014, 233:331–337.
- [3] Robinson-Cohen, C., Littman, A.J., Duncan, G.E., Weiss, N.S., Sachs, M.C., et al. Physical Activity and Change in Estimated GFR among Persons with CKD. *Journal of the American Society of Nephrology*, 2013, DOI:10.1681/ASN.2013040392.
- [4] Blondon, M., Sachs, M.C., Hoofnagle, A.N., et al. 25-hydroxyvitamin d and parathyroid hormone are not associated with carotid intima-media thickness or plaque in the multi-ethnic study of atherosclerosis. *Arteriosclerosis, thrombosis, and vascular biology*, 2013, 33(11):2639–2645.
- [5] Bosworth, C., Sachs, M.C., Duprez, D., et al. Parathyroid hormone and arterial function in the Multi-Ethnic Study of Atherosclerosis. *Clinical Endocrinology*, 2013, 79(3):429–436.
- [6] Sachs, M.C., Brunzell, J.D., Cleary, P.A., et al. Circulating Vitamin D Metabolites and Subclinical Atherosclerosis in Type 1 Diabetes. *Diabetes Care*, 2013, 36(8):2423–2429.
- [7] Robinson-Cohen, C., Hoofnagle, A.N., Ix, J.H., Sachs, M.C., et al. Racial differences in the association of serum 25-hydroxyvitamin D concentration with coronary heart disease events. *Journal of the American Medical Association*, 2013, 310(2):179–188.
- [8] Sachs, M.C. and Zhou, X.H. Partial Summary Measures of the Predictive-ness Curve. *Biometrical Journal*, 2013, 55(4) 589–602.
- [9] Sachs, M.C., Shoben, A., Levin, G.P., et al. Estimating Mean Annual 25-Hydroxyvitamin D Concentration from Single Measurements Developed in the Multi-Ethnic Study of Atherosclerosis (MESA). *American Journal of Clinical Nutrition*, 2013, 97(6):1243–51.
- [10] Mehrotra, R., Peralta, C.A., Chen, S., Li, S., Sachs, M.C., et al. No independent association of serum phosphorus with risk for death or progression to end-stage renal disease in a large screen for chronic kidney disease. *Kidney International*, 2013, 84:989–997.
- [11] Afkarian, M., Sachs, M.C., Kestenbaum, B., et al. Kidney Disease and Increased Mortality Risk in Type 2 Diabetes. *Journal of the American Society of Nephrology*, 2013, 24(2): 302–308.
- [12] de Boer, I.H., Sachs, M.C., Hoofnagle, A.N., et al. Paricalcitol Does Not Improve Glucose Metabolism in Patients with Stage 3-4 Chronic Kidney Disease. *Kidney International*, 2013, 83:323–330.
- [13] de Boer, I.H., Sachs, M.C., Cleary, P.A., et al. Circulating Vitamin D Metabolites and Kidney Disease in Type 1 Diabetes. *Journal of Clinical Endocrinology and Metabolism*, 2012, 97(12): 4780–4788.

	<p>[14] Hernandez, S., McClendon, J.M., Zhou, X.H., Sachs, M.C., Lerner, A.J. Pharmacological Treatment of Alzheimer's Disease: Effect of Race and Demographic Variables. <i>Journal of Alzheimer's Disease</i>, 2010, 19(2): 665–672.</p> <p>[15] Newman, A.B., Sachs, M.C., Arnold, A.M., et al. Total and Cause-Specific Mortality in the Cardiovascular Health Study. <i>Journal of Gerontology</i>, 2009, 64(12):1251–1261.</p> <p>[16] Sachs, M.C., Enright, P.L., Hinckley-Stukovsky, K.D., et al. Performance of Maximum Inspiratory Pressure Tests and Maximum Inspiratory Pressure Reference Equations for 4 Race/Ethnic Groups. <i>Respiratory Care</i>, 2009, 54(10): 1321–1328.</p> <p>[17] Newman, A.B., Arnold, A.M., Sachs, M.C., et al. Long-term Function in an Older Cohort – the Cardiovascular Health Study All-Stars Study. <i>Journal of the American Geriatric Society</i>, 2009, 57(3): 432–440.</p>
SUBMITTED JOURNAL PUBLICATIONS	<p>[18] Gabriel, E.E., Sachs, M.C., Gilbert P.B. Comparing Biomarkers as Principal Surrogates for Time-to-Event Clinical Endpoints Allowing for Time-Varying Treatment Efficacy. 2013, Submitted.</p> <p>[19] Mathew, J., Sachs, M.C., de Boer, I.H., et al. Fibroblast Growth Factor-23 and Incident Atrial Fibrillation: A Cardiovascular Health Study (CHS) and Multi-Ethnic Study of Atherosclerosis (MESA) Analysis. 2013, Submitted.</p>
CONFERENCE TALKS	<p>[20] Sachs, M.C. Adaptive Trial Designs for Endpoint Selection. Invited Talk: <i>UW Medicine Division of Nephrology Investigators Forum</i>, March 2013.</p> <p>[21] Sachs, M.C. and de Boer, I.H. Statistical Analysis of Seasonal Variation in Vitamin D Concentrations in the MESA Study. In: <i>2012 Joint Statistical Meetings, Biometrics Section</i>, July, 2012.</p> <p>[22] Sachs, M.C. Estimating Covariate Specific Positive and Negative Predictive Values: An Application in Depression. Invited Talk: <i>National Institutes of Mental Health Epidemiology Training Program Meeting</i>. February 2010.</p>
CONFERENCE POSTERS	<p>[23] Sachs, M.C. Methodological Considerations in the Study of Kidney Function Decline. In: <i>American Society of Nephrology Kidney Week</i>, November, 2012. Poster abstract.</p> <p>[24] Sachs, M.C. Modeling the Probability of Undergoing Brain Autopsy in a Large Sample of Decedents. In <i>International Conference on Alzheimer's Disease</i>, July, 2012. Poster abstract.</p>
TEACHING EXPERIENCE	<p><b>University of Washington Biostatistics</b>, Seattle, WA</p> <p><i>Teaching Assistant</i> <span style="float: right;"><b>September 2007 to August 2010</b></span></p> <p>Assistant for:</p>

- Classical Theory of Linear Models
- Medical Biometry I and II
- Categorical Data Analysis in Epidemiology
- Survival Data Analysis in Epidemiology

Responsible for office hours, grading homework and exams, developing homework and exam questions, running discussion sections, delivering lectures, managing course webpages and answering emails.

**Lake Forest College, Department of Mathematics**, Lake Forest, IL

*Teaching Assistant*

**September 2004 to June 2005**

Assistant for:

- Introduction to Probability and Statistics

Responsible for office hours, grading homework and exams, delivering lectures and answering emails.

## PROFESSIONAL SERVICE

### Referee Service

- *Diabetes Care*
- *American Journal of Kidney Disease*
- *BMC Medical Research Methodology*
- *Statistics in Medicine*
- *Circulation*

### Committee Service

University of Washington, Department of Biostatistics Educational Policies and Teaching Evaluation Committee,

*Member*

**September 2007 – August 2011**

- Represented students on committee responsible for evaluating and managing graduate curriculum and teaching.
- Involved in making important decisions about graduate program requirements, course changes, and teaching evaluations.

### Volunteer Service

**Statistics in the Community (StatCom)** University of Washington Branch

*Chair/Lead Consultant*

**September 2009 – August 2011**

- StatCom is an organization of (bio)statistics graduate students with the dual aims of 1) providing free statistical consultation services for non-profit and government organizations and 2) educating ourselves by gaining experience in consulting and improving communication skills with non-statisticians.
- As lead consultant, was responsible for connecting with potential clients, assessing their needs and feasibility of their project, assembling a consulting group, and coordinating the project.
- Past projects participated in include: sample size calculation and planning for medical care access studies with the Clinton Health Access Initiative,

developing an analysis plan for a pain study at St. Clair Hospital, analyzing emergency medical services call volume data for King County Public Health Department, and analyzing landslide frequencies in the Washington state watershed for the Washington Forest Law Center.

- Designed current StatCom website and internal forums.

PROFESSIONAL  
EXPERIENCE

**National Institutes of Health**, Bethesda, MD

Division of Statistical Analysis and Reporting

*Mathematical Statistician*

**August 2013 – present**

- Successfully works as part of a team of analysts and administrators who are responsible for data, reports and analyses on the National Institutes' of Health (NIH) research investments.
- Designs studies, develops novel statistical methods as needed, implements statistical analyses to address important policy and economic questions related to the NIH extramural funding program.
- Proficient working with data from diverse sources, including administrative databases, publication records, and surveys.
- Effectively communicates results with key stakeholders through discussions, presentations, and reports, and to the broader community through published papers and conference presentations.
- Works efficiently on multiple projects simultaneously, with varying deadlines and levels of urgency.
- Reduced workload of analysts by developing R functions for common reporting tasks.
- Successfully redesigned and automated a major annual reporting product in R. Removed possibility of errors due to copy-pasting.

**University of Washington**, Seattle, WA

Kidney Research Institute

*Biostatistician*

**August 2011 – July 2013**

- Worked with a team of leading professionals in their fields on a variety of quantitative research projects with a focus on improving medical decision making and advancing research in kidney disease.
- Communicated and coordinated with other investigators to design studies to achieve our scientific aims and submit grant applications. Served as analyst for several major grants awarded by the National Institutes of Health.
- Implemented statistical analyses to address important scientific questions.
- Effectively communicated results with co-investigators and is involved with the dissemination of results to the broader scientific community through published papers and conference presentations.
- Continued independent research in statistical methods, specifically in methods for the development and evaluation of prediction models, and causal inference in epidemiology.

National Alzheimer's Coordinating Center

*Research Assistant*

**September 2007 – August 2011**

- Worked with a team responsible for the coordination and data management of a large scale Alzheimer's Disease (AD) research study involving thousands of participants at over 30 centers around North America.
- Collaborated with medical researchers and epidemiologists on a variety of projects.

*Collaborative Health Studies Coordinating Center*

*Research Assistant*

**September 2005 – September 2007**

- Worked with a team responsible for the coordination and data management of a multitude of research studies focused on the epidemiology of cardiovascular disease.
- Worked with collaborators to translate scientific questions to statistical questions and implement statistical analyses.

**Institut de Claude Bernard, Université Paris Diderot, Paris, France**

*Biostatistics and Epidemiology Unit*

*Intern*

**August 2004 to December 2004**

- Collaborated with a group of biostatisticians and medical professionals on a variety of research projects.
- Consulted with medical researchers on projects about health-care access in developing countries, epidemiology of ALS, and pharmacodynamics/pharmacokinetics.

PROFESSIONAL  
MEMBERSHIPS

American Statistical Association, Member, 2007–present

SOFTWARE  
SKILLS

Statistical Analysis:

- R, SAS, Stata, Maple, Mathematica

Programming:

- C++, JavaScript, Linux shell scripting, Python, SQL

LANGUAGES

English

- Native

French

- Proficient reading and writing.
- Proficient listening and speaking.

AWARDS

University of Washington, Department of Biostatistics

- National Institute of Mental Health Pre-doctoral Trainee, 2007–2012.
- Best Poster Award, Voted by Students, 2008 Biostatistics Retreat, Leavenworth, WA.

Lake Forest College

- Phi Beta Kappa, 2005
- The Curtis Award in Mathematics, 2005